

Under *G. s. tranquilla* Frith (1982) mentions that the boundary between *tranquilla* and *placida* is not well known. This is because there is very little variation throughout eastern Australia, and there are no breaks in its distribution. Frith also states that *placida* is darker and smaller than *tranquilla*; however Condon (1975) asserts the opposite. This gives some idea of the difficulties facing people trying to delineate boundaries between these so-called subspecies.

In summary I recognize only two subspecies in the Australian region: *G. s. placida* of Australia and New Guinea, and *G. s. maugaei* of the Lesser Sundas. The latter is large and strongly barred on the breast and flanks (4 bars rather than 3 on each feather) has no brownish purple suffusion to the breast and flanks, has extensive chestnut on the inner webs of primaries and secondaries and has yellow or orange facial skin. It is also noteworthy that *maugaei* of Sumbawa and Rinca Islands were attracted by and responded to taped calls of Australian *placida*.

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PLANTS COLLECTED BY J.A.L. PREISS FROM KINGS PARK IN 1839

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ABSTRACT

Johann August Ludwig Preiss was an important early plant collector in Western Australia. He documented his collecting localities with precision and recorded 22 species from Mt Eliza, Perth (now Kings Park) of which 12 were used by botanists to describe new species.

INTRODUCTION

It is likely that a few early plant collections in the colony were made from Kings Park but many of the early collectors only recorded imprecise localities such as "Perth" or "Swan River". In contrast, the visiting botanist Johann August Ludwig Preiss gave precise localities. For example he recorded the details of 22 plants including a fungus from the locality cited as "Elizamountain", "Mt Eliza" or "Elizamontagne", i.e. the scarp to the west of Perth between present day Parliament House and Kings Park.

BACKGROUND

Little is known about Preiss before he came to Western Australia. He was born in Herzberg am Harz near Gottingen, Germany on 21 November, 1811 and died there on 21 May, 1883. He was University trained and had been awarded the degree of Doctor of Philosophy.

Preiss arrived at Fremantle on 4 December 1838 and spent three years in Western Australia making an excellent botanical collection, which together with those of James Drummond formed the basis for the early taxonomic studies of this state. He and James Drummond disagreed on several points although they did do some field collecting together. In addition to plant specimens Preiss also collected shells, insects, birds, reptiles and mammals; his precise collecting localities prove very useful today. In October 1839 when he had collected 1500 plant species, he offered the entire collection to the British government at a cost of £3000, but it was not purchased.

After leaving Fremantle in 1841 Preiss went to England arriving in the spring of 1842 and stayed there until June before returning to Hamburg. Whilst in England William Hooker purchased seeds and specimens which gave Preiss the necessary finance to organise his collection. Under the guidance and supervision of J.G.C. Lehmann, Professor of Botany and Director of the Hamburg Botanic Garden, the organisation of a 2-volume work, *Plantae Preissianae* commenced. This work classified and described all of Preiss's plant collections made in Western Australia. A number of European Botanists were invited to prepare treatments of various families for inclusion in *Plantae Preissianae*, but none were done by Preiss himself. This 2-volume work was published in 7 parts (4 in Volume 1 and 3 in Volume 2) between 1844 and 1848.

KINGS PARK COLLECTION

Preiss collected and identified approximately 2800 plant collections (Marchant 1990) which were made in the Swan River Colony between 15 December, 1838 to 16 January, 1840. Of these 22 were collected from Mt Eliza and include type collections of 10 species and 2 varieties. Six of the species are currently placed in synonymy.

Kings Park is the Type Locality for the following species:

Baumea preissii. A sedge to 45 cm tall forming stands in seasonally waterlogged areas bordering lakes and water-courses. The inflorescence is about half the height of the plant and the spikelets are purple-brown to grey-brown. It occurs from Red Hill south to Pemberton. Presumably collected from the base of Mt Eliza.

Scaevola holosericea. An erect, spreading shrub to 1 m tall with hairy leaves and terminal spikes of blue, rarely white flowers. It occurs on the sandy soils between Perth and Bunbury. Common in the Park.

Trymalium albicans. A shrub to 1 m tall with pale yellow to cream flowers. This taxon was previously regarded as *Trymalium ledifolium* which occurs on the Darling Scarp. *Trymalium albicans* differs in flower colour, less hairy leaves and its later flowering period. It grows associated with limestone between Lancelin and Coogee and in Kings Park on the lower limestone slopes of Mt Eliza.

Drosera porrecta (currently *Drosera stolonifera*). A tuberous herb to 25 cm tall with basal, spatulate leaves occurring in a rosette and cauline leaves whorled along the stem. The white flowers occur in terminal and axillary panicles. This species is widespread between Dongara and Albany and common in Kings Park.

Aqaricus australius. A "mushroom" fungus which is now known as *Lepiota australiana*.

Pachysurus angianthoides (currently *Calocephalus angianthoides*). An annual to 8 cm tall with globular, creamy-yellow flower heads. Recorded from the metropolitan area but not often collected. No exact location in Kings Park is known as there is no recent collection.

Elynanthus octandrus (currently *Tetraria octandra*). A perennial sedge to 1.2 m tall with mainly basal leaves and leaf-like bracts up the stem. The dark coloured inflorescence is up to 25 cm tall. It occurs from Eneabba to Albany. Widespread in Kings Park.

Patersonia turfosa (currently *Patersonia occidentalis*). A tufted plant with the flowers enclosed in 2, large, brown bracts. The purple flowers each last one day. It is a widespread species occurring from the Murchison River to Esperance. Scattered throughout most of Kings Park.

Candollea parviflora (currently *Hibbertia racemosa*). A low shrub to 50 cm tall with narrow, stem clasping leaves, each leaf ending in three small points. The yellow flowers are axillary in the upper leaf axils. Occurs from Northampton to Esperance. Scattered throughout the Kings Park bushland.

Libertia laxus (currently *Orthrosanthus laxus*). A tufted plant to 50 cm tall with the purple flowers enclosed in 2, unequal sized, green bracts. This species is widespread from Northampton to Bremer Bay but is not very common in Kings Park where it is found on the sandy soil above the escarpment.

Eurybia axillaris var *exaltata* (currently *Olearia axillaris*). A much branched shrub to 2 m tall with narrow, grey-coloured leaves. The small flower heads terminate small axillary branches. Occurs from Bernier Island to Eyre; also recorded from eastern Australia. Common on the limestone and sandy soils of the escarpment.

Cryptandra tridentata var *tomentosa* (currently *Spyridium tridentatum*). A low, nearly prostrate shrub with spoon-shaped leaves. The small flowers occur in terminal or axillary heads. It occurs from Wongan Hills south to Lake King. Common on the limestone and sandy soils of the escarpment.

A complete list of plants collected by Preiss from Mt Eliza and cited in *Plantae Preissianae*, volumes 1 and 2 (Lehmann 1844-8) is given below (Table 1).

Table 1: Preiss collections from Elizamountain, Mt Eliza or Elizamontagne.

Preiss Number	Date	Name Given in <i>Plantae Preissianae</i>	Volume and Page Number
1874	19 Jan 1839	<i>Typha shuttleworthii</i> Sond et Koch	2:3
2306	20 Jan 1839	<i>Hemiandra brevifolia</i> Benth.	1:355
2358	21 Jan 1839	<i>Paterosonia turfosa</i> Endl.	2:31
2317	27 Jan 1839	<i>Hemiandra hirsuta</i> Benth.	1:355
1083	18 May 1839	<i>Templetonia retusa</i> R.Br.	1:88
93	19 May 1839	<i>Eurybia axillaris</i> DC. v <i>exaltata</i> Steetz	1:418
1689	19 May 1839	<i>Pomaderris albicans</i> Steud.	1:184
1689	19 May 1839	<i>Trymalium albicans</i> Reiss	2:280
1770	June 1839	<i>Elynanthus octandrus</i> Neers ab Esenb.	2:77
2663	June 1839	<i>Agaricus australis</i> Fries	2:131
2150	17 June 1839	<i>Candollea parviflora</i> Steud.	1:276
1985	20 Aug 1839	<i>Drosera porrecta</i> Lehm.	1:252
1735	Sept 1839	<i>Baumea preissii</i> Nees ab Esend.	2:75
638	23 Sept 1839	<i>Petrophile macrostachya</i> R.Br.	1:502
1478	23 Sept 1839	<i>Scaevola holosericea</i> de Vriese	1:408
1570	23 Sept 1839	<i>Thysanotus tenuis</i> Lindl.	2:37
2017	23 Sept 1839	<i>Ricinocarpus glaucus</i> Endl.	2:229
2230	23 Sept 1839	<i>Libertia laxa</i> Endl.	2:32
1216	25 Sept 1839	<i>Cryptandra tridentata</i> Steud v <i>tomentosa</i> Reiss	2:289
1564	2 Oct 1839	<i>Thysanotus anceps</i> Lindl.	2:37
1571	25 Oct 1839	<i>Thysanotus triandrus</i> R.Br.	2:38
1517	25 Oct 1839	<i>Scaevola multiflora</i> Lindl.	1:407
44	25 Oct 1839	<i>Pachysurus anguinthoides</i> Steetz	1:442

Note number 1689, collected 19 May 1839 was described in Volume 1 as *Pomaderris albicans* and in Volume 2 as *Trymalium albicans*.

SYNONYMY OF NON-TYPE COLLECTIONS

Hemiandra brevifolia and *Hemiandra hirsuta* are both currently called *Hemiandra pungens*.

Typha shuttleworthii currently is called *Typha domingensis*.

Scaevola multiflora is currently called *Scaevola nitida*.

Thysanotus tenuis and *Thysanotus anceps* were incorrectly named by Preiss and are *Thysanotus thyrsoides* and *Thysanotus arenarius* respectively.

CURRENTLY ACCEPTED NAMES

The following species names listed by Preiss are still current today.

- Templetonia retusa*
- Petrophile macrostegia*
- Ricinocarpus glaucus*
- Thysanotus triandrus*

COMMENTS

Baumea preissii of *Typha shuttleworthii* do not grow in present-day Kings Park. Both are plants which grow in seasonally waterlogged soil bordering lakes and water-courses. With development of Mounts Bay Road this habitat was lost.

Calocephalus angianthoides has not been recorded in recent years from Kings Park so this presumably is a species which has become locally extinct with the development of Perth. It is of interest that Kings Park is a type locality for a number of species still extant so near the centre of a large city, and today can afford researchers the opportunity to revisit the type locality and to know that even though in the centre of a city the plants are safe.

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THE COMBAT RITUAL OF TWO MONITOR LIZARDS, *VARANUS CAUDOLINEATUS* AND *VARANUS GOULDII*

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INTRODUCTION

Ritual male combat has been reported for a number of monitor species, but this is the first report of male ritual combat for either *Varanus caudolineatus* or *V. gouldii*.

Varanus caudolineatus is a small arboreal goanna living in the central coastal and interior areas of central Western Australia, whereas *Varanus gouldii* is found throughout most parts of mainland Australia with the exception of the extreme south-eastern part of the continent (Cogger 1986).

Varanus caudolineatus

At approximately 2.45 pm on 12 December 1990, two adult *V. caudolineatus* (20.1 and 21.8 g) were observed fighting for about 5 minutes, approximately 2 km East of Zado Bore (119° 07'E, 28°S; 55 km SW of Sandstone). The ambient temperature was 36°C and the *V. caudolineatus* were in an area with a partial ground cover of spinifex (*Triodia* sp.) and leaf litter over the red, gritty sand. Approximately 25% of all standing trees were dead and a proportion of